AMENDMENTS TO THE CLAIMS

This list of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-25 (canceled).

Claim 26 (new): Pancreatic islet cells produced *in vitro* without serum according to a method comprising introducing pancreatic islet cells into a cell culture medium *in vitro*, said culture medium comprising 1-150 mg/L arginine; 1-120 mg/L proline; 1-3050 mg/L nicotinamide; 0.1-100 mg/L transferrin chelated with iron; greater than 10^{-11} M insulin or insulin-like growth factors; 10^{-12} M-10^{-3} M glucocorticoid steroid; 1-6000 μg/L zinc salt; 1-250 μg/L manganese salt; 1-1000 μg/L copper salt; 1-150 μg/L selenium salt; 2.0-10.0 mM L-glutamine; 0.01-5.0 g/L D-galactose or 0.01-5.0 g/L D-glucose, or when both D-galactose and D-glucose are included together, 0.01-8.0 g/L, and culturing said introduced cells in said medium.

Claim 27 (new): Pancreatic islet cells as in claim 26 wherein said method further comprises expanding said introduced cells in said medium.

Claim 28 (new): Pancreatic islet cells as in claim 26 wherein said method further comprises altering the phenotype of said pancreatic islets cells to a less-differentiated state by allowing cell proliferation for sufficient time to produce pancreatic islets cells that are less-differentiated than said introduced pancreatic islet cells.

Claim 29 (new): Pancreatic islet cells as in claim 26 wherein said method further comprises culturing said pancreatic islet cells to a less-differentiated state by allowing cell proliferation to occur for sufficient time, and causing said less-differentiated cells to develop the characteristics of the introduced pancreatic islet cells, wherein said developing of pancreatic islet cell characteristics is brought about by a method selected from the group consisting of adding extracellular matrix material and allowing the less-differentiated cells to reach confluence.

Claim 30 (new): Pancreatic islet cells as in claim 29 wherein said matrix comprises one or more of fibronectin, collagen, laminin, and polylysine.

Claim 31 (new): Pancreatic islet cells as in claim 29 wherein said matrix comprises one or more of entactin, laminin and collagen type IV.

Claim 32 (new): Pancreatic islet cells as in claim 26 wherein said method further comprises culturing said introduced cells in said medium, and allowing cell proliferation and clonal growth to occur by culturing the pancreatic islet cells under appropriate conditions and for a sufficient time in the culture medium to produce said clonal growth.

Claim 33 (new): Pancreatic islet cells as in claim 26 wherein said method further comprises forming tissue structures from said pancreatic islet cells by culturing said pancreatic islet cells to a less-differentiated stage by allowing cell proliferation to occur for sufficient time, and causing said less-differentiated cells to develop the characteristics of the introduced pancreatic islet cells, wherein a matrix is used to develop said characteristics and said structures are formed by adding one or more growth factors to said cells on said matrix.

Claim 34 (new): Pancreatic islet cells as in claim 33 wherein said matrix comprises one or more of fibronectin, collagen, laminin, and polylysine.

Claim 35 (new): Pancreatic islet cells as in claim 33 wherein said matrix comprises one or more of entactin, laminin and collagen type IV.

Claim 36 (new): Pancreatic islet cells as in claim 26 wherein said culture medium further comprises at least one additional growth factor.

Claim 37 (new): Pancreatic islet cells as in claim 36 wherein said additional growth factor is selected from the group consisting of HGF/SF, EGF, and TGFα.

Claim 38 (new): A pharmaceutical composition comprising pancreatic islet cells as in claim 26.

Claim 39 (new): A method of producing recombinant pancreatic islet cells expressing a heterologous gene, said method comprising transforming pancreatic islet cells as in claim 36 with a nucleic acid capable of expressing said gene in said cells.

Claim 40 (new): A method of using pancreatic islet cells produced as in claim 39 comprising infusing said pancreatic islet cells into a patient and allowing said gene to be expressed.

Claim 41 (new): A method for pancreatic islet cell transplantation comprising introducing pancreatic islet cells as in claim 36 into a patient.

Claim 42 (new): A method for manufacturing a gene product comprising culturing pancreatic islet cells as in claim 36 and recovering the gene product.

Claim 43 (new): A method for testing a drug comprising introducing said drug to pancreatic islet cells as in claim 36 and assaying for the effect of the drug.